

Title (en)

CARTRIDGE, AND ELECTROPHOTOGRAPHIC IMAGE FORMING APPARATUS WHICH USES CARTRIDGE

Title (de)

KARTUSCHE UND VORRICHTUNG ZUR ELEKTROFOTOGRAPHISCHEN BILDERZEUGUNG MIT DER KARTUSCHE

Title (fr)

CARTOUCHE ET APPAREIL DE FORMATION D'IMAGES ÉLECTROFOTOGRAPHIQUES UTILISANT UNE CARTOUCHE

Publication

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Application

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Abstract (en)

A cartridge for use with a main assembly of an electrophotographic image forming apparatus, the main assembly including a driving shaft having a rotational force applying portion, wherein the cartridge is dismountable from the main assembly in a direction substantially perpendicular to an axial direction of the driving shaft, the cartridge including i) a developing roller for developing an electrostatic latent image formed on an electrophotographic photosensitive drum, the developing roller being rotatable about an axis thereof; and ii) a coupling member engageable with the rotational force applying portion to receive a rotational force for rotating the developing roller, the coupling member being capable of taking a rotational force transmitting angular position for transmitting the rotational force for rotating the developing roller to the developing roller and a disengaging angular position in which the coupling member is inclined away from the rotational force transmitting angular position, wherein when the cartridge is dismounted from the main assembly of the electrophotographic image forming apparatus in a direction substantially perpendicular to the axis of the developing roller, the coupling member moves from the rotational force transmitting angular position to the disengaging angular position.

IPC 8 full level

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CPC (source: BR EP KR RU US)

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Citation (applicant)

- US 7027754 B2 20060411 - HARADA KINYA [JP], et al
- US 2007160384 A1 20070712 - SAKURAI HIROMI [JP], et al
- JP 2875203 B2 19990331
- EP 09762562 A 20090609
- EP 2288966 A1 20110302 - CANON KK [JP]

Citation (search report)

- [AP] US 2008240796 A1 20081002 - MORIOKA MASANARI [JP], et al
- [AP] US 2008152388 A1 20080626 - UENO TAKAHITO [JP], et al
- [A] US 2007122188 A1 20070531 - IGARASHI HIROSHI [JP]
- [A] JP 2002031153 A 20020131 - CANON KK
- [A] US 2002025191 A1 20020228 - KITAYAMA KUNIHICO [JP]
- [A] US 6517439 B1 20030211 - SEARS JEFFREY L [US]
- [A] US 4065941 A 19780103 - AOKI SADASHIRO

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TW I696048 B 20200611; TW I751544 B 20220101; TW I811887 B 20230811; US 10168665 B2 20190101; US 11061369 B2 20210713;
US 11067949 B2 20210720; US 11500327 B2 20221115; US 2013287437 A1 20131031; US 2017248911 A1 20170831;
US 2019079448 A1 20190314; US 2020159165 A1 20200521; US 2021294241 A1 20210923; US 9684261 B2 20170620;
WO 2009151132 A1 20091217

DOCDB simple family (application)

US 99012609 A 20090609; AU 2009258530 A 20090609; BR PI0914886 A 20090609; CA 2725120 A 20090609; CA 2946487 A 20090609;
CA 2946499 A 20090609; CA 3031949 A 20090609; CA 3031957 A 20090609; CA 3031965 A 20090609; CA 3031968 A 20090609;
CA 3031974 A 20090609; CA 3097422 A 20090609; CA 3111684 A 20090609; CN 200980121411 A 20090609; CN 201410281437 A 20090609;
CN 201410281539 A 20090609; CN 201410281825 A 20090609; CN 201410281836 A 20090609; CN 201410282708 A 20090609;
CN 201410282711 A 20090609; CN 201410282719 A 20090609; DE 112009001406 T 20090609; DE 112009005570 T 20090609;
DE 112009005579 T 20090609; EP 09762562 A 20090609; EP 20154786 A 20090609; EP 20154787 A 20090609; EP 20154788 A 20090609;
EP 20154789 A 20090609; ES 09762562 T 20090609; HK 11106414 A 20110622; HK 14111210 A 20110622; HK 15100407 A 20150114;
HK 15100408 A 20150114; HK 15100409 A 20150114; HK 15100410 A 20150114; HK 15100411 A 20150114; HK 15100412 A 20150114;
JP 2008151824 A 20080610; JP 2009060822 W 20090609; KR 20107029731 A 20090609; KR 20147022582 A 20090609;
KR 20147022583 A 20090609; KR 20147022584 A 20090609; KR 20147022585 A 20090609; KR 20147022588 A 20090609;
KR 20147022589 A 20090609; KR 20147022591 A 20090609; KR 20157006806 A 20090609; KR 20157012775 A 20090609;
KR 20197025216 A 20090609; KR 20207000521 A 20090609; KR 20207019467 A 20090609; KR 20217003540 A 20090609;
KR 20227001493 A 20090609; KR 20227036731 A 20090609; MX 2010012873 A 20090609; MX 2014004892 A 20090609;
MY PI2010005824 A 20090609; PL 09762562 T 20090609; RU 2010154421 A 20090609; RU 2014147192 A 20141124;
RU 2016121623 A 20160601; RU 2018100723 A 20180111; RU 2018145768 A 20181224; RU 2019125526 A 20190813;
RU 2020114773 A 20200427; RU 2020140027 A 20201207; RU 2021119736 A 20210706; SG 2013041488 A 20090609;
TW 102126892 A 20090610; TW 105118986 A 20090610; TW 106125760 A 20090610; TW 107144749 A 20090610; TW 109114921 A 20090610;
TW 110146609 A 20090610; TW 98119431 A 20090610; US 201313866338 A 20130419; US 201715595218 A 20170515;
US 201816189147 A 20181113; US 202016774216 A 20200128; US 202117341524 A 20210608